In the Claims:

1-10 (cancelled)

11. (new) A method for peer-to-peer fault detection for distributed. shared media networks, the method comprising the steps of:

having a distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

Using peer-to-peer logic fault detection in which each node finds a pair to establish a peer-to-peer checking mechanism at network power up;

Reporting any irregular or non-received responses;

Using random or pseudo-random timeout generation along with broadcast messaging, the nodes are pair up until every node has an associated pair;

Assigning a node a timeout period to periodically send a status report message to its associated partner node;

Having the partner node generate and send a status report back; and

Reporting any irregular status or non-received response.

12. (new) A method for peer-to-peer fault detection for distributed. shared media networks, the method comprising the steps of:

having a distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

Using peer-to-peer logic fault detection in which each node finds a pair to establish a peer-to-peer checking mechanism at network power up;

Reporting any irregular or non-received responses; and

Having any node have the ability to request to reestablish of network peer-to-peer pairs .

13. (new) The method in claim 12 which includes the following steps comprising:

Having a Node send a check message to its paired Node requesting its updated status;

Having its paired Node reply with a reply check message with any abnormal status;

Resending check message if no reply check message is received;

Repeating previous step a set number of times; and

Reporting any non-received response if no reply check message is received.

14. (new) A method for peer-to-peer fault detection for distributed. shared media networks, the method comprising the steps of:

Having a distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

Using peer-to-peer logic fault detection in which each node finds a pair to establish a peer-to-peer checking mechanism at network power up;

Reporting any irregular or non-received responses;

Having a node that does not have a node pair send a status report to a paired node; and

Having the paired node report any irregular status but not send a reply check message to the node.

15. (new) A network device for peer-to-peer fault detection for distributed, shared media networks comprising:

A distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

A fault detection means using peer-to-peer logic fault detection in which each node finds a pair to establish a peer-to-peer checking mechanism at network power up;

A reporting means reporting any irregular or non-received responses;

Having a random or pseudo-random timeout generation means along with broadcast messaging means to pair up nodes until every node has an associated pair;

Having the node assigned a timeout period to periodically send a status report message to its associated partner node;

Having the partner node generate and send a status report back to the first node; and

A reporting means reporting an irregular status or non-received response.

16. (new) A network device for peer-to-peer fault detection for distributed, shared media networks comprising:

A distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

A fault detection means using peer-to-peer logic fault detection in which each node finds a pair to establish a peer-to-peer checking mechanism at network power up;

A reporting means reporting any irregular or non-received responses; and

any node being able to request to reestablish of network peer-to-peer pairs

17. (new) The device in claim 16 further comprising:

Having a Node send a check message to its paired Node requesting its updated status,

Having its paired Node reply with a reply check message with any abnormal status,

Resending check message if no reply check message is received;

Repeating previous step a set number of times; and

Reporting any irregular or non-received response.

18. (new) A network device for peer-to-peer fault detection for distributed, shared media networks comprising :

A distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

A fault detection means using peer-to-peer logic fault detection in which each node finds a pair to establish a peer-to-peer checking mechanism at network power up;

A reporting means reporting any irregular or non-received responses;

Having a node that does not have a node pair send a status report to a paired node; and

Having the paired node report any irregular status but not send a reply check message.

19. (new) A method for peer-to-peer fault detection for distributed, shared networks, the method comprising the steps of:

having a distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

Using peer-to-peer logic fault detection in which each node finds a pair to establish a peer-to-peer checking mechanism at network power up;

Using peer-to-peer logic fault detection in which each node communicates with any other node across said common communication network to dynamically find a pair to establish a peer-to-peer checking mechanism at network power up; and

Reporting or storing a report for later reporting as result of any irregular or non-received responses in the communication among established pairs through said common communication network.

20. (new) A network device for peer-to-peer fault detection for distributed, shared media networks comprising:

A distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

A fault detection means using peer-to-peer logic fault detection in which each node across said common communication network to dynamically finds a pair to establish a peer-to-peer checking mechanism at network power up; and

A reporting means reporting or storing a report for later reporting as result of any irregular or non-received responses in the communication among established pairs through said common communication network.